

Animal Feeding Operations Monitoring Study Frequently Asked Questions

1. What is the animal feeding operations monitoring study?

- The monitoring study is an industry-funded emissions monitoring study that will help provide information on air emissions from animal feeding operations, leading to better tools to help the animal agriculture industry and EPA determine the compliance status of feeding operations. The study will be funded through the [Air Quality Compliance Agreement for Animal Feeding Operations](#), which EPA announced on January 21, 2005.

2. How does the monitoring study relate to the Air Quality Compliance Agreement?

- The compliance agreement makes this monitoring study possible in a timely and efficient way. Under the agreement, participating animal feeding operations (AFOs) will pay into a fund to conduct two years of monitoring at selected sites. EPA will use the monitoring data to develop methods for estimating emissions at these and other similar AFOs.

3. How will this monitoring study protect public health?

- This study is an important step in providing critical information about the type and amount of AFO emissions. EPA will use that information to develop a method for estimating emissions from other AFOs. Those estimates, in turn, will help EPA to:
 - Determine the type of operations that should be a focus of the Air Office's strategy for reducing AFO emissions, which the Agency is developing now; and
 - Determine whether specific animal feeding operations are in compliance with requirements of three laws: the Clean Air Act; the Emergency Planning & Community Right to Know Act (EPCRA); and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

4. What pollutants will be monitored?

- The agreement requires monitoring of four regulated pollutants likely to be emitted from animal housing and manure storage facilities at animal production farms: particulate matter; hydrogen sulfide; volatile organic compounds; and ammonia.

5. What will EPA do with the data?

- EPA will have several immediate uses for these data. The data will allow EPA to determine whether AFO emissions are likely to exceed regulatory thresholds. And the data will help the Agency develop a precise method for estimating AFO emissions, as the National Academy of Sciences recommended in 2002.
- In addition, these data will help as EPA continues developing an Agriculture Strategy, which will contain steps for reducing air pollution from farms. The Office of Air and Radiation will be working with stakeholders on the strategy during the two-year monitoring period.

6. Who will select the farms to be monitored?

- Subject to EPA approval, an independent monitoring contractor and a science adviser will propose farms to be monitored. The farms must meet a number of criteria related to practices commonly used by the industry, meteorological conditions and waste management methods.

7. How many farms will be monitored?

- While we anticipate that about 28 farms will be monitored, the actual number depends on how many and what type of animal feeding operations sign on to the consent agreement. The farms monitored will represent typical operations for different animals (swine, dairy cows and poultry) and different regions of the country.

8. What portions of the farms actually will be monitored?

- Monitoring will take place at barns, lagoons, and waste or manure storage piles. Land application sites are not included.

9. When will the monitoring begin, and how long will the program last?

- Selected sites will be monitored for two years to ensure that the data account for seasonal variability as well as the impact of any operational changes. The two-year period also will allow EPA to determine whether the data are similar from one year to the next and to account for any data anomalies.
- We anticipate actual monitoring will begin in late 2005 or early 2006. Several steps must be completed before the monitoring can begin. A timeline for these steps is in the consent agreement:
 - The Environmental Appeals Board must approve the consent agreement.
 - EPA must approve or disapprove the independent monitoring contractor and the science adviser for the project.
 - The independent monitoring contractor must submit a plan for conducting the monitoring.
 - EPA must review and approve/disapprove the plan.
 - The contractor will have time to resubmit the plan if necessary.
 - The contractor will have to procure monitoring equipment.

10. What about multi-species farms? If a farm raises both pigs and sheep, are the sheep areas monitored?

- Only animals covered in the agreement will be monitored. If a farming operation has pigs and sheep for instance, emissions from the sheep barns, lagoons, and waste or manure storage piles will not be monitored. If the sheep and pigs are in such close proximity that there would be a question as to the source of emissions, then that farm likely would not be considered for monitoring.

11. What kind of equipment will be used to monitor the farms? Who selected this equipment?

- Continuous emissions monitoring equipment and optical sensing monitors will be used to conduct the monitoring. A team that developed the protocol for the monitoring program evaluated different types of equipment and made recommendations based on the latest and most viable technologies available.

12. Who will own the monitoring equipment?

- Industry will own the equipment, which will be contained in a mobile monitoring laboratory.

13. Who will actually carry out the monitoring?

- Contractors will conduct the monitoring, with EPA oversight. A peer involvement group that developed the protocol for the monitoring program also developed a list of possible *principal investigators*, based on the group's knowledge of their experience. Interested investigators submitted their credentials and availability to become members of a pool. The independent monitoring contractor will contract with investigators from that pool to conduct the monitoring.

14. If contractors are conducting the monitoring, who is checking to make sure they're doing things correctly?

- With EPA oversight, the *science adviser* will oversee the entire process, checking to ensure that each farm follows the monitoring plan correctly.
- The science adviser will meet with EPA representatives each quarter to discuss the project status and determine milestones for the next quarter. During these meetings, EPA and the adviser also will determine: 1) whether any changes to the plan are warranted and 2) whether contractors are correctly following the plan.

15. Is EPA doing ambient monitoring to determine background levels in addition to emissions monitoring? Where will those monitors be placed?

- The monitoring protocol does not require ambient monitoring to determine background concentrations. However, the protocol does call for: monitoring to determine the air quality entering barns and upwind of lagoons; and monitoring near farms to calculate background concentrations, with upwind and downwind monitoring instruments placed in the appropriate vicinity of barns, lagoons, and/or waste piles. The exact location of monitor placement will depend on the site itself and will be reflected in individual monitoring plans.

16. What is the difference between the monitoring protocol and a monitoring plan?

- The monitoring *protocol* provides a roadmap for a comprehensive test plan by outlining the acceptable methods for monitoring under given scenarios, such as the species of animal being raised, the type of farm practices used, etc. EPA facilitated the development of the monitoring protocol for this effort via a “peer involvement” process that involved research scientists, engineers, industry representatives, a representative from an environmental organization, and representatives from EPA and the U.S. Department of Agriculture.
- The monitoring *plan* will set out additional specific details, such as when the monitoring will be conducted, what specific equipment will be used and where the equipment will be placed on the participating farms. The monitoring plan also will include a comprehensive quality assurance plan.

17. Is there a different monitoring plan for each species?

- Each plan will detail monitoring at one farming operation. In most cases, that likely will be individual plans for separate species at separate farms.

18. Is the monitoring protocol final?

- The protocol is a template that lists the best monitoring protocols to date in the field of agricultural air emissions characterization. Other monitoring instruments or plans can be submitted to EPA for approval if the independent monitoring contractor has an alternative method it feels would be of value. EPA will review and approve or disapprove the plans based on current science.

19. Will the public get a chance to comment on the monitoring plan for each farm?

- The public has the opportunity to comment on the monitoring *protocol*, which provides a roadmap for the comprehensive test plan, by outlining acceptable methods for monitoring under specific scenarios, such as the species of animal being raised, the type of farm practices used, etc. The comment period on the monitoring protocol closes March 2, 2005. The individual farm monitoring plans will not be available for public comment due to the short time for review that is specified in the agreement.

20. What is the independent monitoring contractor’s role?

- Subject to EPA approval, industry will hire the independent monitoring contractor to develop monitoring plans for each farm and submit them to EPA for approval. The contractor also will be responsible for proposing monitoring sites, procuring the equipment used to conduct the monitoring, overseeing the science advisor, and administering all subcontracts.

21. Can the science adviser and the independent monitoring contractor be the same person? What is the science adviser's role?

- The science adviser and the independent monitoring contractor cannot be the same person. The *science adviser* will be responsible for the following: drafting the study design and quality assurance project plan; overseeing the entire process to ensure the monitoring plan is implemented correctly at each facility; selecting and advising the principal investigators; submitting reports to EPA; and sending the emissions data to EPA. Subject to EPA approval, the independent monitoring contractor will contract with the adviser, who is to be both highly qualified and well-known in the agricultural monitoring field. The science adviser will report to the independent monitoring contractor.

22. Is there a different science adviser for each species of animal?

- There will be one science adviser for the entire program. That person is to be an expert in animal agriculture air emissions characterization, regardless of the species.

23. How often will the data be reported to EPA? Will EPA make the data public?

- The science adviser for the project is responsible for submitting quarterly reports – including the monitoring data – to EPA. However, upon request, EPA may obtain the data more frequently. EPA will make the data publicly available after they have been reviewed and quality assured.

24. What happens after the study ends? Does that mean farms won't be monitored at all?

- It's too soon to answer that. EPA will be evaluating the information we receive for three purposes: 1) to determine whether animal feeding operations likely are exceeding regulatory thresholds; 2) to target an emissions reduction strategy to the operations where emissions are most significant and where we are most likely to see significant improvements; and 3) to determine what information we need next.
- EPA has worked with a number of researchers in developing the monitoring protocol, and we hope that some of them will conduct additional studies.

25. Who can I call for more information about the monitoring study?

- Sharon Nizich, EPA's Office of Air Quality Planning and Standards, 919/541-2825.